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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/684,587 | 10/15/2003 | Jun Shen | 2040.0440000 | 1752 |
| 26111 | 7590 | 01/24/2006 | EXAMINER | |
| STERNE, KESSLER, GOLDSTEIN & FOX PLLC 1100 NEW YORK AVENUE, N.W. WASHINGTON, DC 20005 | | | ROJAS, BERNARD | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2832 | |

DATE MAILED: 01/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/684,587

Applicant(s)

SHEN, JUN

Examiner

Bernard Rojas

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-43 is/are pending in the application.
- 4a) Of the above claim(s) 1-31, 37, 40 and 42 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 32-35, 38, 39, 41 and 43 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>05172004</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Applicant's election without traverse of Embodiment 5, claims 32-35, 38m 39, 41 and 43, in the reply filed on 11/16/2006 is acknowledged.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 32-35, 38, 41 and 43 are rejected under 35 U.S.C. 102(b) as being anticipated by Bishop et al. [US 6,124,650].

Claim 32, Bishop et al. discloses a latching micro magnetic switch, the switch comprising a reference plane; a magnet [16], located proximate to a supporting structure [26], the magnet producing a first magnetic field with uniformly spaced field lines at obtuse angles with respect to the reference plane; a cantilever [12], supported by the supporting structure, having an axis of rotation lying in the reference plane, and having a magnetic material [14] that makes the cantilever sensitive to the first magnetic field, such that the cantilever can rotate about the axis of rotation between first and

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second states; and a conductor [10], located proximate to the supporting structure and the cantilever, configured to conduct a current, wherein the current produces a second magnetic field having a component approximately parallel to the reference plane and approximately perpendicular to the rotational axis of the cantilever, which causes the cantilever to switch between the first and second states [figure 1].

Claim 33, Bishop et al. discloses the switch of claim 32, wherein once switched to a one of the first and second states, the cantilever is latched in the one of the first and second states by the first magnetic field until further switching occurs [abs].

Claim 34, Bishop et al. discloses the switch of claim 32, wherein the conductor and the cantilever are formed on the supporting structure [figure 1].

Claim 35, Bishop et al. discloses the switch of claim 32, wherein the cantilever is provided between the substrate and the magnet [figure 1].

Claim 38, Bishop et al. discloses the switch of claim 32, wherein the supporting structure is a substrate [26].

Claim 41, Bishop et al. discloses the switch of claim 32, wherein a longitudinal axis of the permanent magnet is at an acute angle within respect to a longitudinal axis of the supporting structure [figure 1].

Claim 43, Bishop et al. discloses the switch of claim 32, wherein one of the first and second states is a temporary state [both states are temporary as the cantilever is able to switch between the two states abs].

Claims 32-34, 38, 39, 41 and 43 are rejected under 35 U.S.C. 102(e) as being anticipated by Shen et al. [US 6,794,965].

Claim 32, Shen et al. discloses a latching micro magnetic switch, the switch comprising a reference plane; a magnet, located proximate to a supporting structure, the magnet producing a first magnetic field with uniformly spaced field lines at obtuse angles with respect to the reference plane; a cantilever, supported by the supporting structure, having an axis of rotation lying in the reference plane, and having a magnetic material that makes the cantilever sensitive to the first magnetic field, such that the cantilever can rotate about the axis of rotation between first and second states; and a conductor, located proximate to the supporting structure and the cantilever, configured to conduct a current, wherein the current produces a second magnetic field having a component approximately parallel to the reference plane and approximately perpendicular to the rotational axis of the cantilever, which causes the cantilever to switch between the first and second states [figure 12].

Claim 33, Shen et al. discloses the switch of claim 32, wherein once switched to a one of the first and second states, the cantilever is latched in the one of the first and second states by the first magnetic field until further switching occurs [col. 9 line 55 to col. 10 line 35].

Claim 34, Shen et al. discloses the switch of claim 32, wherein the conductor and the cantilever are formed on the supporting structure [figure 12].

Claim 38, Shen et al. discloses the switch of claim 32, wherein the supporting structure is a substrate [figure 12].

Claim 39, Shen et al. discloses the switch of claim 32, wherein; the first state is an ON state during; and the second state is an OFF state [col. 9 lines 44-55].

Claim 41, Shen et al. discloses the switch of claim 32, wherein a longitudinal axis of the permanent magnet is at an acute angle within respect to a longitudinal axis of the supporting structure [figure 12].

Claim 43, Shen et al. discloses the switch of claim 32, wherein one of the first and second states is a temporary state [both states are temporary as the cantilever is able to switch between the two states col. 9 lines 44-55].

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bernard Rojas whose telephone number is (571) 272-1998. The examiner can normally be reached on M-F 8-4:00), every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Elvin G. Enad can be reached on (571) 272-1990. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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